

IN THE CLAIMS

Please amend claims 18, 20, and 29-31 as follows:

12 18. (Twice amended) A process for making a semiconductor device according to claim 29, wherein the forming of the single crystal transition metal on the barrier film comprises depositing a transition metal on the barrier film concurrent with heating the substrate and barrier film surface to approximately 375°C or higher.

14 20. (Twice amended) A process for making a semiconductor device according to claim 29, wherein the forming of the single crystal transition metal on the barrier film comprises the substeps of depositing a transition metal on the barrier film at a temperature below 375°C, and then annealing the resulting metallized substrate at a temperature of 375°C or higher.

1 29. (Amended) A process of making a semiconductor device comprising the steps of: forming, on a surface of a substrate material, a barrier film comprising a monolayer of metal atoms, said metal atoms being selected from the group consisting of barium, strontium, and cesium atoms, singly or in combinations thereof; and forming a single crystal transition metal on the barrier film.

1 23 2 30. (Amended) A process for making a semiconductor film according to claim 29, wherein the barrier film comprises a heteroepitaxial film structure comprising the monolayer of metal atoms located on said surface of said substrate, and a homoepitaxial portion comprised of a metal halide selected from barium halide, strontium halide, and cesium halide, located between the monolayer and the transition metal.

3 31. (Amended) A process for making a semiconductor device according to claim 30, wherein the homoepitaxial portion of the barrier film is comprised of a metal halide selected from the group consisting of BaF<sub>2</sub>, BaCl<sub>2</sub>, SrF<sub>2</sub>, SrCl<sub>2</sub>, CsF, and CsCl.